

CLAIMS

1. A method of preparing an undifferentiated cell, the method comprising contacting a more committed cell with an agent that causes the more committed cell to retrodifferentiate into an undifferentiated cell.
2. A method according to claim 1 wherein the more committed cell is capable of retrodifferentiating into an MHC Class I<sup>+</sup> and/or an MHC Class II<sup>+</sup> undifferentiated cell.
3. A method according to claim 1 or claim 2 wherein the more committed cell is capable of retrodifferentiating into an undifferentiated cell comprising a stem cell antigen.
4. A method according to any one of the preceding claims wherein the more committed cell is capable of retrodifferentiating into a CD34<sup>+</sup> undifferentiated cell.
5. A method according to any one of the preceding claims wherein the more committed cell is capable of retrodifferentiating into a lymphohaematopoietic progenitor cell.
6. A method according to any one of the preceding claims wherein the more committed cell is capable of retrodifferentiating into a pluripotent stem cell.
7. A method according to any one of the preceding claims wherein the undifferentiated cell is an MHC Class I<sup>+</sup> and/or an MHC Class II<sup>+</sup> cell.
8. A method according to any one of the preceding claims wherein the undifferentiated cell comprises a stem cell antigen.
9. A method according to any one of the preceding claims wherein the undifferentiated cell is a CD34<sup>+</sup> undifferentiated cell.

10. A method according to any one of the preceding claims wherein the undifferentiated cell is a lymphohaematopoietic progenitor cell.
11. A method according to any one of the preceding claims wherein the undifferentiated cell is a pluripotent stem cell.
12. A method according to any one of the preceding claims wherein the more committed cell is an MHC Class I<sup>+</sup> and/or an MHC Class II<sup>+</sup> cell.
13. A method according to any one of the preceding claims wherein the agent acts extracellularly of the more committed cell.
14. A method according to any one of the preceding claims wherein the more committed cell comprises a receptor that is operably engageable by the agent and wherein the agent operably engages the receptor.
15. A method according to claim 14 wherein the receptor is a cell surface receptor.
16. A method according to claim 14 or claim 15 wherein the receptor comprises an  $\alpha$ - component and/or a  $\beta$ - component.
17. A method according to claim 16 wherein the receptor comprises a  $\beta$ -chain having homologous regions.
18. A method according to claim 17 wherein the receptor comprises at least the homologous regions of the  $\beta$ -chain of HLA-DR.
19. A method according to claim 16 wherein the receptor comprises an  $\alpha$ -chain having homologous regions.
20. A method according to claim 19 wherein the receptor comprises at least the homologous regions of the  $\alpha$ -chain of HLA-DR.

21. A method according to any one of claims 14 to 20 wherein the agent is an antibody to the receptor.
22. A method according to claim 21 wherein the agent is a monoclonal antibody to  
5 the receptor.
23. A method according to claim 18 wherein the agent is an antibody, preferably a monoclonal antibody, to the homologous regions of the  $\beta$ -chain of HLA-DR.
- 10 24. A method according to claim 20 wherein the agent is an antibody, preferably a monoclonal antibody, to the homologous regions of the  $\alpha$ -chain of HLA-DR.
25. A method according to any one of the preceding claims wherein the agent modulates MHC gene expression, preferably wherein the agent modulates MHC Class  
15 I<sup>+</sup> and/or MHC Class II<sup>+</sup> expression.
26. A method according to any one of the preceding claims wherein the agent is used in conjunction with a biological response modifier.
- 20 27. A method according to claim 25 wherein the biological response modifier is an alkylating agent, preferably wherein the alkylating agent is or comprises cyclophosphamide.
28. A method according to any one of the preceding claims wherein the more  
25 committed cell is a differentiated cell.
29. A method according to claim 28 wherein the more committed cell is any one of a B cell or a T cell.
- 30 30. A method according to any one of claims 1 to 27 wherein the more committed cell is a more mature undifferentiated cell.

31. A method according to any one of the preceding claims wherein the undifferentiated cell is committed to a recommitted cell.

5 32. A method according to claim 31 wherein the recommitted cell is of the same lineage as the more committed cell prior to retrodifferentiation.

33. A method according to claim 31 wherein the recommitted cell is of a different lineage as the more committed cell prior to retrodifferentiation.

10 34. A method according to any one of claims 31 to 33 wherein the recommitted cell is any one of a B cell, a T cell or a granulocyte.

15 35. A method according to any one of the preceding claims wherein the method is an *in vitro* method.

36. An undifferentiated cell produced according to the method of any one of claims 1 to 35.

20 37. An undifferentiated cell produced according to the method of any one of claims 1 to 35 for use as or in the preparation of a medicament.

25 38. Use of an undifferentiated cell produced according to the method of any one of claims 1 to 37 in the manufacture of a medicament for the treatment of an immunological disorder or disease.

39. A recommitted cell produced according to the method of any one of claims 31 to 35.

30 40. A recommitted cell produced according to the method of any one of claims 31 to 35 for use as or in the preparation of a medicament.

41. Use of a recommitted cell produced according to the method of any one of claims

31 to 35 in the manufacture of a medicament for the treatment of an immunological disorder or disease.

42. A more committed cell having attached thereto an agent that can cause the more  
5 committed cell to retrodifferentiate into an undifferentiated cell.

43. A CD19<sup>+</sup> and CD3<sup>+</sup> cell.

44. A method of preparing an undifferentiated cell from a more committed cell  
10 substantially as hereinbefore described.

45. An undifferentiated cell prepared from a more committed cell substantially as  
hereinbefore described.

15 46. A recommitted cell prepared from an undifferentiated cell which has been  
prepared from a more committed cell substantially as hereinbefore described.